No. 8400074

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pioneer Hi-Bred International, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF Eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY, AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'9292'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 26th *day of* April *in the year of our Lord one thousand nine hundred and* eighty-five.

Attest:

Kenneth A. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

John R Block
Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

FORM APPROVED
OMB NO. 40-R3822

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY	1b. VARIETY NAME	FOR OFFICIAL USE ONLY
	9292	PV NUMBER 8400074
2. KIND NAME: Soybean	3. GENUS AND SPECIES NAME: Glycine max	FILING DATE 3/20/84 / TIME 2:30 XXX P.M.
4. FAMILY NAME (BOTANICAL): Leguminosae	5. DATE OF DETERMINATION: October, 1978; January, 1982 (increase)	FEE RECEIVED $ 1,800 / $ 200.00 / DATE 3/20/84 / 3/18/85
6. NAME OF APPLICANT(S): Pioneer Hi-Bred International, Inc.	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*: Capital Square, 400 Locust Street, Des Moines, Iowa 50309	8. TELEPHONE AREA CODE AND NUMBER: (319)277-1733
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*: Corporation	10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION: Iowa	11. DATE OF INCORPORATION: 1926

12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS:

Clark W. Jennings
Box 854
Cedar Falls, Iowa 50613

Dale L. Porter (copy)
Capital Square - 400 Locust St.
Des Moines, Iowa 50309

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- [X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- [X] 13B. Exhibit B, Novelty Statement.
- [X] 13C. Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*
- [ ] 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a). (If "Yes," answer 14B and 14C below.)* [ ] YES [X] NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED?
[ ] YES [X] NO	[ ] FOUNDATION [ ] REGISTERED [ ] CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)*

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)*

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? [X] YES [ ] NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

14 March 1984
(DATE)

Clark Jennings
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

FORM GR-470 (1-78)

8400074

Attachment: 9292 Soybean (March, 1984)

Exhibit A: Variety 9292 evolved from a cross of 149-66 X Williams. (149-66 was derived from a cross of Corsoy X Magna.)It is an F_5-derived variety which was advanced to the F_5 generation by modified single-seed descent. The F_6 progeny row of 9292 was grown in Iowa during the summer of 1978. Subsequently, 9292 has undergone five years of extensive testing and purification and has been observed by the breeder to be uniform and stable for all plant traits from generation to generation, with no evidence of variants.

Seed hila of variety 9292 are light brown in color, and under certain environmental conditions may appear buff or light tan in color. When seeds of this type are planted, they produce plants having seeds with light brown hila color.

5 acres of 9292 (breeders seed) were grown in 1982. 215 acres of parent seedstock (foundation seed equivalent) were grown in 1983.

Attachment: 9292 Soybean (March, 1984)

8400074

Exhibit B: Variety 9292 is most similar to the variety 9271. However, the cotyledons of each contain and express different isozymes of the protein enzyme'isocitrate dehydrogenase' (IDH) as determined by using electrophretic techniques described by Cardy, et al (1980)[1] and illustrated specifically for soybeans by Cardy and Beversdorf (in press)[2].

Cotyledons from variety 9271 produce an IDH-type B isozyme banding pattern, whereas cotyledons from variety 9292 produce an IDH-type A isozyme banding pattern. Each variety has been observed to be uniform and stable for the expression of its respective isozyme pattern, with no evidence of variants.

1. Cardy, B.J., Stuber, C.W. and Goodman, M.M. (1980) Techniques for starch gel electrophoresis of enzymes from maize (Zea mays L.). Department of Statistics Mimeo Series No. 1317, North Carolina State University, Raleigh, North Carolina, 31pp.

2. Cardy, B.J. and Beversdorf, W.D. (in press) Identification of soybean cultivars using isoenzyme electrophoresis. (Submitted to Seed Science and Technology, May 1983.)

Attachment: 9292 Soybean (October 1984)

Exhibit B (Addendum): In addition to the IDH izozyme banding pattern differences between 9292 and 9271, they also differ in days to maturity and in percent etched (physiologically cracked) seeds. 9292 is significantly later than 9271 by 3 days (see Table 1.), and has more than 40 percent fewer etched seeds per 100 seed sample than does 9271 (see Table 2.).

Variety 9292 is also similar to variety CX 290. However, it differs from CX 290 in seed protein peroxidase activity; CX 290 has a low activity, whereas 9292 has a high activity.

Table 1. Paired Comparison (Days to Maturity) 1981-83

YR/ EXP /LOC	9271(X_2)	9292(X_1)	X_1-X_2	$(X_1-X_2)^2$
83/CFA2/01	122	127	5	25
83/CFA2/02	137	141	4	16
83/CFA2/05	114	120	6	36
83/NPA2/46	119	120	1	1
83/NPA2/48	125	127	2	4
83/SJA2/39	121	127	6	36
83/CFV2/01	122	128	6	36
83/CFV2/04	115	118	3	9
83/CFV2/38	116	123	7	49
83/CFV2/39	124	128	4	16
83/CFV2/48	124	126	2	4
82/CFA2/04	127	131	4	16
82/SJA2/38	128	129	1	1
82/SJA2/39	123	127	4	16
82/NPA2/47	85	88	3	9
82/NPA2/53	119	122	3	9
82/NPA2/55	120	123	3	9
82/NPA2/59	131	133	2	4
81/CFA2/01	130	131	1	1
81/CFA2/02	132	133	1	1
81/SJA2/39	116	117	1	1
TOTAL	2,550	2,619	69	299
$\bar{X}$	121.4	124.7	3.3	

n = 21

$$s_{\bar{d}} = \sqrt{\frac{299 - [(69)^2/21]}{(21)(20)}} = .415$$

$$t_{(.05)} = \frac{\bar{d}}{s_{\bar{d}}} = \frac{3.3}{.415} = 7.95 \text{ ** with 20 df}$$

Table 2. Paired Comparison (number of etched seeds per 100 seeds) - 1983 data

TEST / LOC / REP			9271(X_1)	9292(X_2)	(X_1-X_2)	(X_1-X_2)^2
CFA2	/ 01 /	1	58	9	49	2401
		2	57	12	45	2025
		3	55	13	42	1764
	02	1	81	30	51	2601
		2	87	38	49	2401
		3	81	43	38	1444
	03	1	91	21	70	4900
		2	75	41	34	1156
	04	1	85	49	36	1296
		2	90	20	70	4900
		3	86	50	36	1296
	11	1	67	25	42	1764
		2	67	24	43	1849
		3	49	30	19	361
	12	1	80	24	56	3136
		2	72	38	34	1156
		3	64	22	42	1764
CFA2B2/	01 /	1	40	17	23	529
		2	38	13	25	625
		3	20	16	4	16
	04	1	78	29	49	2401
		2	91	23	68	4624
		3	91	18	73	5329
CFV200/	01 /	1	65	24	41	1681
		2	67	24	43	1849
		3	58	30	28	784
	04	1	55	26	29	841
		2	81	27	54	2916
		3	98	23	75	5625
CFA2B1/	01 /	1	40	19	21	441
		2	52	31	21	441
		3	30	24	6	36
	02	1	74	20	54	2916
		2	84	29	55	3025
		3	79	25	54	2916
TOTAL			2386	907	1479	73209
$\bar{X}$			68.2	25.9	42.3	

n = 35

$$s_{\bar{d}} = \sqrt{\frac{73209 - [(1479)^2/35]}{35(34)}} = 3.00$$

$$t_{(.05)} = \frac{\bar{d}}{s_{\bar{d}}} = \frac{42.3}{3.0} = 14.09 \text{ ** for 34 df}$$

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (Glycine max L.*)*

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
Pioneer Hi-Bred International, Inc.		9292

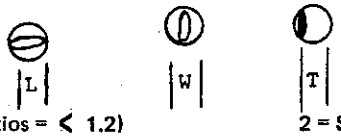
ADDRESS *(Street and No., or R.F.D. No., City, State, and Zip Code)*
Capital Square
400 Locust street
Des Moines, Iowa 50309

FOR OFFICIAL USE ONLY
PVPO NUMBER
8400074

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g., [0][9]).

1. SEED SHAPE:

[1]



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

2. SEED COAT COLOR: (Mature Seed)

[1] 1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other *(Specify)* _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

[1] 1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

4. SEED SIZE: (Mature Seed)

[1][8] Grams per 100 seeds

5. HILUM COLOR: (Mature Seed)

[3] 1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other *(Specify)* _____

6. COTYLEDON COLOR: (Mature Seed)

[1] 1 = Yellow 2 = Green

7. SEED PROTEIN PEROXIDASE ACTIVITY:

[2] 1 = Low 2 = High

8. SEED PROTEIN ELECTROPHORETIC BAND:

[ ] 1 = Type A ($SP1^a$) 2 = Type B ($SP1^b$)

9. HYPOCOTYL COLOR:

[4] 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

10. LEAFLET SHAPE:

[3] 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other *(Specify)* _____

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11. LEAFLET SIZE:

[2] 1 = Small ('Amsoy 71'; 'A5312') 2 = Medium ('Corsoy 79'; 'Gasoy 17')
3 = Large ('Crawford'; 'Tracy')

12. LEAF COLOR:

[3] 1 = Light Green ('Weber'; 'York') 2 = Medium Green ('Corsoy 79'; 'Braxton')
3 = Dark Green ('Gnome'; 'Tracy')

13. FLOWER COLOR:

[2] 1 = White 2 = Purple 3 = White with purple throat

14. POD COLOR:

[2] 1 = Tan 2 = Brown 3 = Black

15. PLANT PUBESCENCE COLOR:

[2] 1 = Gray 2 = Brown (Tawny)

16. PLANT TYPES:

[1] 1 = Slender ('Essex'; 'Amsoy 71') 2 = Intermediate ('Amcor'; 'Braxton')
3 = Bushy ('Gnome'; 'Govan')

17. PLANT HABIT:

[3] 1 = Determinate ('Gnome'; 'Braxton') 2 = Semi-Determinate ('Will')
3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

18. MATURITY GROUP:

[0][5] 1 = 000 2 = 00 3 = 0 4 = I 5 = II 6 = III 7 = IV 8 = V
9 = VI 10 = VII 11 = VIII 12 = IX 13 = X

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

[0] Bacterial Pustule *(Xanthomonas phaseoli* var. *sojensis)*

[0] Bacterial Blight *(Pseudomonas glycinea)*

[0] Wildfire *(Pseudomonas tabaci)*

FUNGAL DISEASES:

[0] Brown Spot *(Septoria glycines)*

Frogeye Leaf Spot *(Cercospora sojina)*

[0] Race 1 [0] Race 2 [0] Race 3 [0] Race 4 [0] Race 5 [0] Other *(Specify)* _____

[0] Target Spot *(Corynespora cassiicola)*

[0] Downy Mildew *(Peronospora trifoliorum* var. *manshurica)*

[0] Powdery Mildew *(Microsphaera diffusa)*

[0] Brown Stem Rot *(Cephalosporium gregatum)*

[0] Stem Canker *(Diaporthe phaseolorum* var. *caulivora)*

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19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

[0] Pod and Stem Blight *(Diaporthe phaseolorum* var; *sojae)*

[0] Purple Seed Stain *(Cercospora kikuchii)*

[0] Rhizoctonia Root Rot *(Rhizoctonia solani)*

Phytophthora Rot *(Phytophthora megasperma* var. *sojae)*

[1] Race 1 [1] Race 2 [0] Race 3 [0] Race 4 [0] Race 5 [0] Race 6 [0] Race 7

[0] Race 8 [0] Race 9 [ ] Other *(Specify)* _____

VIRAL DISEASES:

[0] Bud Blight (Tobacco Ringspot Virus)

[0] Yellow Mosaic (Bean Yellow Mosaic Virus)

[0] Cowpea Mosaic (Cowpea Chlorotic Virus)

[0] Pod Mottle (Bean Pod Mottle Virus)

[0] Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

Soybean Cyst Nematode *(Heterodera glycines)*

[0] Race 1 [0] Race 2 [1] Race 3 [0] Race 4 [0] Other *(Specify)* _____

[0] Lance Nematode *(Hoplolaimus Colombus)*

[0] Southern Root Knot Nematode *(Meloidogyne incognita)*

[0] Northern Root Knot Nematode *(Meloidogyne Hapla)*

[0] Peanut Root Knot Nematode *(Meloidogyne arenaria)*

[0] Reniform Nematode *(Rotylenchulus reniformis)*

[0] OTHER DISEASE NOT ON FORM *(Specify)*: _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[2] Iron Chlorosis on Calcareous Soil

[ ] Other *(Specify)* _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[0] Mexican Bean Beetle *(Epilachna varivestis)*

[0] Potato Leaf Hopper *(Empoasca fabae)*

[0] Other *(Specify)* _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	9271	Seed Coat Luster	9271
Leaf Shape	9271	Seed Size	Century
Leaf Color	A3127	Seed Shape	9271
Leaf Size	9271	Seedling Pigmentation	9271

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
9292 Submitted	126	1.7	91						
9271 Name of Similar Variety	124	1.8	89						

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A_2 in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.